

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :  
Christophe BOYER et al. : Examiner: Unassigned  
Serial No.: 10/024,382 *pdf* : Group Art Unit: Unassigned  
Filed: December 21, 2001 :  
For: DEVICE FOR SEPARATE INJECTION AND HOMOGENEOUS DISTRIBUTION  
OF TWO FLUIDS

**SUPPLEMENTAL PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, Applicants wish to amend the above-identified application as indicated below:

**IN THE CLAIMS:**

Please add the following new claims:

21. An apparatus according to claim 1, wherein said vessel is a distillation column in which the first fluid is essentially liquid and the second fluid is essentially gaseous, the essentially gaseous fluid traverses said device from downstream to upstream via said conduits in said column, wherein said essentially gaseous fluid flows upwards and the essentially liquid fluid flows downwards, wherein said device is placed close to the head of said vessel, the distance between the end of said tubes (4) and the top of at least one bed of granular solid (12) is in the range 0 to about 50 mm, 0 excluded, and said orifices are annular slots located around the tubes for inserting said second fluid.

22. An apparatus according to claim 1, wherein said vessel is a reactor in which at least one bed of granular solid (12) is disposed downstream of said injection device, the flows of the two fluids are downwards and co-current, the second fluid is injected into the vessel at least one point upstream of said device, said device is placed close to the head of said vessel, and the distance between the end of said tubes (4) and the top of said bed (12) is in the range 0 to about 50 mm, 0 excluded.

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